

# S A F E T Y

Two Sections • Section One

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# SAFETY Education

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\* \* \* A MAGAZINE FOR TEACHERS AND ADMINISTRATORS



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# TWO... OUT OF FIVE!

by JENNIE SPADAFORA

**T**WO out of five children who died in 1947 were killed in accidents. This represents a slight increase in the relative importance of accidents compared to years prior to 1946, when the ratio was one out of three. However, this relative increase was due to a sizable decrease in deaths from disease, rather than to an increase in accidental deaths. In fact, the 1947 accidental death rate of persons 5 to 19 years old was 17 per cent below the rate for 1941, the last prewar year—34.9 compared to 41.8.

The National Office of Vital Statistics recorded a total of 29,732 deaths from all causes in 1947 among persons 5 to 19 years old. Of these, 11,802, or 40 per cent, were caused by accidents. In 1946 accidents caused 37 per cent of the deaths in this age group, and in 1941 they were responsible for 34 per cent of the fatalities.

The second cause of death in 1947 among persons 5 to 19 years old was tuberculosis, with a total of 2,319. Heart disease was third with 1,751 deaths.

The accompanying table gives the 1947 record for some important and well-known causes of deaths for each five-year age group from 5 to 19 years. The death totals indicate roughly the size of the death rates, since the populations of the three groups were similar.

Among children 5 to 9 years of age, pneumonia was the second cause of death, followed by cancer. However, deaths from accidents were about three and a half times as numerous as deaths from both pneumonia and cancer.

MISS SPADAFORA is a member of the statistical division of the National Safety Council.

Diseases of the heart, with 555 deaths, ranked next after accidents as a cause of death among children 10 to 14 years of age. Tuberculosis, the next most important cause, was responsible for 373 deaths, and cancer caused 335 deaths. Accidents, however, caused about five times as many deaths in this age group as diseases of the heart, and approximately eight times as many deaths as tuberculosis or cancer.

The leading fatal disease among young people 15 to 19 years of age was tuberculosis with 1,720 fatalities. There were 857 deaths from heart disease, the next most important cause, and 488 from diseases of pregnancy, child birth, puerperium, the third cause. Again, accidents were the outstanding cause of death, accounting for nearly twice as many deaths as the three leading nonaccidental causes combined.

Over the past ten years, medical science has proved its effective power among school children 5 to 14 years old. In 1938, 15 out of 100,000 of these children died of pneumonia and influenza; in 1947, only 4 out of 100,000 died of these diseases. In 1938, 7 out of 100,000 died of tuberculosis; in 1947, fewer than 3. In 1938, 10 out of 100,000 died of appendicitis, and 9 of heart disease; in 1947, only 2 out of 100,000 died of appendicitis and 4 of heart disease.

In 1938, 29 out of 100,000 children 5 to 14 years old died of accidents; in 1947, 27, an improvement of only 7 per cent.

Although progress in accident prevention work has been slower than that in the field of disease prevention and cure, the record indicates that the favorable trend probably will continue in future years.

## SOME IMPORTANT CAUSES OF DEATH AT SCHOOL AGE, 1946 and 1947

Cause of Death	5-9 years			10-14 Years			15-19 Years			1946			1947			1947			
	1947	Number of Deaths	Per Cent of Deaths	1946	Number of Deaths	Per Cent of Deaths	1946	Number of Deaths	Per Cent of Deaths	1946	Number of Deaths	Per Cent of Deaths	1946	Number of Deaths	Per Cent of Deaths	1947	Number of Deaths	Per Cent of Deaths	
Accidents . . . . .	3,252	38	36	2,817	39	37	5,733	41	39	11,802	40	37	11,802	40	37	11,802	40	37	
Typhoid and paratyphoid . . . . .	15	*	*	24	*	*	26	*	*	65	*	*	65	*	*	65	*	*	
Scarlet Fever . . . . .	25	*	1	18	*	*	14	*	*	57	*	*	57	*	*	57	*	*	
Diphtheria . . . . .	189	2	3	56	1	1	15	*	*	260	1	1	260	1	1	260	1	1	
Tuberculosis (all forms) . . . . .	226	3	3	373	5	5	1,720	12	13	2,319	8	8	2,319	8	8	2,319	8	8	
Malaria . . . . .	8	*	*	3	*	*	6	*	*	17	*	*	17	*	*	17	*	*	
Syphilis . . . . .	10	*	*	26	*	*	55	*	*	91	*	*	91	*	*	91	*	*	
Measles . . . . .	76	1	2	25	*	1	10	*	*	111	*	*	111	*	*	111	*	1	
Poliomyelitis, poliencephalitis (acute) . . . . .	107	1	4	77	1	4	83	1	2	267	1	1	267	1	1	267	1	1	
Cancer, other malignant tumors . . . . .	398	5	4	335	5	4	462	3	3	1,195	4	4	1,195	4	4	1,195	4	4	
Acute rheumatic fever . . . . .	153	2	2	172	2	2	94	1	1	419	1	1	419	1	1	419	1	1	
Diabetes mellitus . . . . .	60	1	1	115	2	2	174	1	1	349	1	1	349	1	1	349	1	1	
Diseases of the heart . . . . .	339	4	4	555	8	8	857	6	6	1,751	6	6	1,751	6	6	1,751	6	6	
Pneumonia (all forms) . . . . .	510	6	6	328	5	5	420	3	3	1,258	4	4	1,258	4	4	1,258	4	4	
Influenza . . . . .	89	1	1	70	1	1	84	1	1	243	1	1	243	1	1	243	1	1	
Appendicitis . . . . .	215	3	3	205	3	3	229	2	2	649	2	2	649	2	2	649	2	2	
Hernia, intestinal obstruction . . . . .	74	1	1	50	1	1	85	1	1	209	1	1	209	1	1	209	1	1	
Nephritis . . . . .	200	2	2	210	3	3	370	3	3	780	3	3	780	3	3	780	3	3	
Diseases of pregnancy, child birth, puerperium . . . . .	0	0	0	21	*	*	488	4	3	509	2	1	509	2	1	509	2	1	
Congenital malformations . . . . .	343	4	*	3	189	2	2	209	1	1	741	3	2	741	3	2	741	3	2
Suicide . . . . .	5	*	*	55	1	1	328	2	2	388	1	1	388	1	1	388	1	1	
Homicide . . . . .	52	1	*	70	1	1	434	3	3	556	2	2	556	2	2	556	2	2	
All other causes . . . . .	2,117	25	24	1,478	20	19	2,101	15	15	5,696	19	19	5,696	19	19	5,696	19	19	
All Deaths . . . . .	8,463	100%	100%	7,272	100%	100%	13,997	100%	100%	29,732	100%	100%	29,732	100%	100%	29,732	100%	100%	

Source: National Office of Vital Statistics.

\* Less than one-half of one per cent.

# ORGANIZING

## The School Safety Patrol

by FLOYD L. LINK

**W**HILE a considerably larger number of adults were killed in motor vehicle accidents in 1948 than in 1922, there were fewer children (5 to 14) killed in 1948 than in 1922.

The fact that a decline has taken place in the 5-to-14-year age group, which includes the children in elementary school, while the number of automobiles on the roads was increasing, would seem to indicate that an educational program designed to teach safe practices on the streets and highways will produce results.

The best and most concentrated efforts have been made at the elementary level. But traffic accidents still are a major cause of death among the 5-to-14-year age group. Our

past achievements point the way for concentrated effort in the future.

Far too many school safety patrols have been organized without school administrators, teachers, sponsoring organizations and the public in general having proper knowledge of their operation and objectives. Before organizing a school safety patrol, one of the first problems that must be successfully met is to convince school authorities, teachers, city authorities and the general public that a patrol is desirable, useful and performs the function for which it is organized.

In doing this job we must point out the values of patrols and the extent of their recognition by such national organizations as the

MR. LINK is safety director of the Motor Club of Iowa, Davenport, Iowa.

Instructing school safety patrol members in their duties is most important for efficiency.



American Automobile Association, National Safety Council, National Education Association, National Congress of Parents and Teachers, the United States Office of Education, and others who have had a part in formulating the rules under which they operate. Such an activity must have value to grow in one decade to a point where the 350,000 boys and girls serve on patrol duty in some 6,000 communities. Further evidence of their value is shown by statements such as this from the *18th Yearbook of the American Association of School Administrators*:

"Twenty-five years ago there was nowhere to be seen in this country so splendid an example of positive regard for law as is today manifested by young people in their service on, and obedience to, school traffic patrols. . . . Those who serve on patrols are rendering a community service of high order and developing in themselves patterns of civic responsibility and active welfare of others."

The general objectives under which any safety patrol should operate may be stated as follows:

- 1) To provide a greater measure of safety for the student body while crossing the streets, walking on rural highways, getting on and off, or riding on, school buses, passing through the halls within the school building or playing on the school grounds.
- 2) To develop within school children an awareness and recognition of traffic hazards; create proper attitudes and

**Election of patrol officers by the members themselves helps stimulate their interest in the patrol.**



4

safe habits at all times and places, not only at, and going to and from, school but in use of streets and highways.

- 3) To provide an opportunity for active, practical pupil participation for both students and patrol members in the school's safety teaching program, working out, in a practical way, the principles of safe practices stressed in classroom activity in this subject.
- 4) The training of patrol members in the acceptance of responsibility, good citizenship, safety and community service.

### Organization

The safety patrol bears the same relationship to the school administration as any other school activity. The degree of its success depends to a very great extent upon the superintendent's understanding, approval and promotion. By doing everything possible to recognize and encourage the principal's, teacher's, patrol sponsor's and student's efforts put forth in connection with the school safety program, the superintendent and administrators can materially aid in the success of this work. Such recognition is stimulating to the teaching activity in this field and productive of greater individual effort.

At various adult meetings, the school administrator can assist the teachers in obtaining parental understanding and co-operation for safety by using the subject as a basis for discussion and comment.

The supervision of the patrol naturally rests with the school principal or his selected representative. Because of the many activities which fall upon the principal, it has been found best to delegate patrol sponsorship to a staff member. The choice of this individual is highly important. He or she should be selected on the basis of interest, leadership and natural aptitude for work of this type. The success of the patrol depends upon its sponsor.

It is self-evident that the teacher-sponsor should be allowed time for this activity and not have it assigned in addition to the full schedule.

As a means of providing an acquaintance with the traffic problems near the school, as well as adding prestige to patrol activities, the principal or assistant should plan to attend patrol meetings. Some time devoted to safety patrol, when policies and problems regarding teacher and pupil relationship are discussed at teacher's meetings, will be found valuable as

a means of bringing out the importance of teaching traffic safety habits.

The patrol sponsor should work directly with the patrol members, guide all activities and constantly supervise the work of the patrol in such a manner as to develop the greatest initiative and effectiveness of each patrol member, as well as a proper attitude in the group.

The sponsor should:

- 1) Develop strict attention to duty and attendance.
- 2) Select desirable officers of the patrol.
- 3) Aim at a complete understanding of patrols, of the rules of operation, of their duties, and the application of these to traffic situations.
- 4) Be familiar with various points to be supervised by the patrols (sidewalk, auxiliary or school bus).
- 5) Arrange to have frequent patrol meetings so that both individual member's problems and problems of mutual interest can be discussed.
- 6) Determine with the principal the time of duty during which the patrol should operate, and assign the patrol members to posts which they can handle.

### Size of Patrol and Officers

Each patrol should have one captain, as many lieutenants and members as needed, depending upon the size of the school, the number of points to be supervised, and whether they work continuously or in shifts.

The choice of patrol members should rest with the principal and sponsor; service should be voluntary, subject to parents' consent.

The captain should check all posts in company with a lieutenant each time the patrol goes on duty, make any substitutions which may be necessary because of absences, see that all rules are properly carried out and report any violations to the sponsor. It is also his duty to keep all records of the patrol.

The lieutenant's duty is to assist the captain of the patrol.

The patrol members should be at their posts on time and carry out the standard rules set up for patrols.

Under this organization (see chart) the entire patrol can operate as one unit, with one captain and teacher-sponsor. Such an organization can be adapted to the smallest or largest school, can operate on the playground,

in school halls and lavatories, in the school bus or at the street crossings.

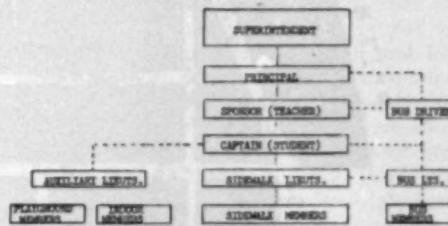
In larger schools, it might be wise to require new members to work on the auxiliary patrol where responsibility is less. Advancement could suit the individual school and be an incentive for better service.

In some smaller schools, there may be no need for a sidewalk patrol; however, the auxiliary and school bus patrols could be helpful.

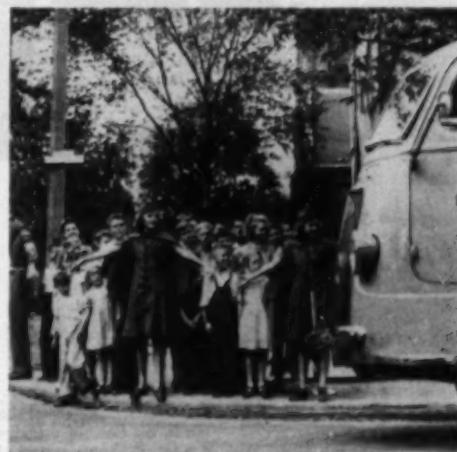
### Rural Schools

The rural school encounters traffic safety problems slightly different than those in the city and town, depending upon the size and location of the school. The organization for such schools is similar to the one explained, with the line of responsibility from the teacher to the captain, to lieutenants, to members, working on the auxiliary and highway units. Patrol members would move with the students rather than supervise them at particular posts.

## SAFETY PATROL ORGANIZATION



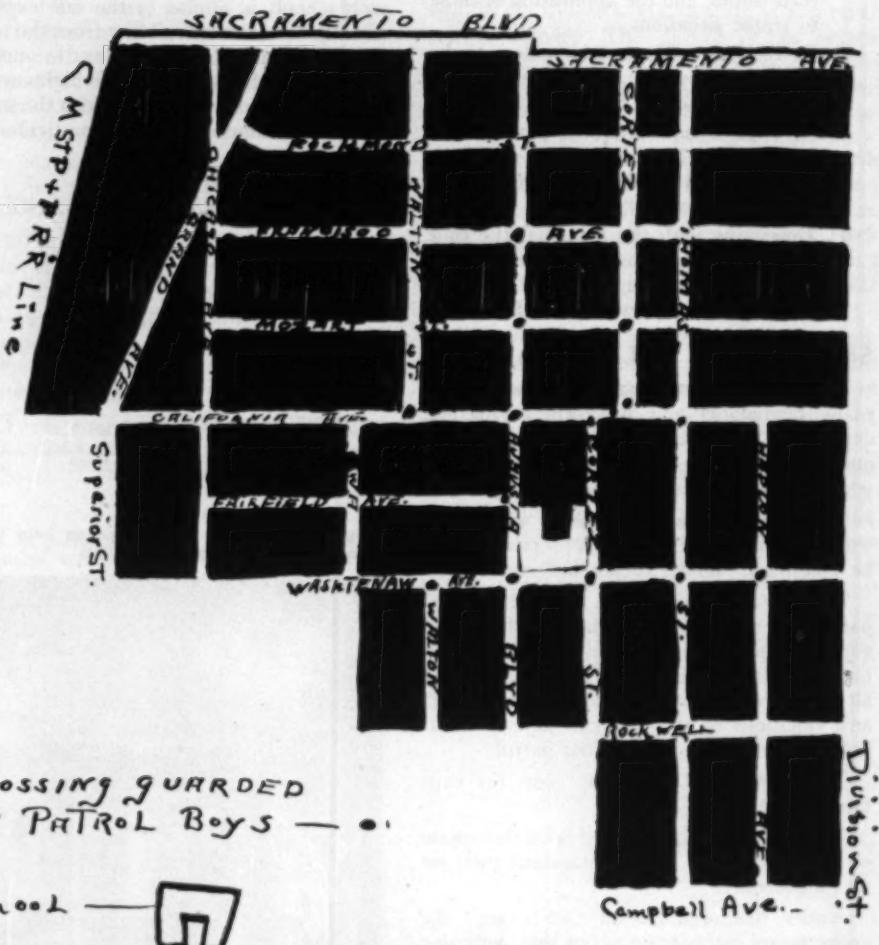
Proper organization and instruction help to make a smooth functioning organization.



# Functioning of the School Safety Patrol

by IRA H. MONELL

## LA FAYETTE SCHOOL DISTRICT



The above sketch of Lafayette school district was made by Ronald Parat, eighth grade student of that school. It shows patrol stations and street crossings.

**S**AFETY is the prevention of personal injuries and the prevention of actions which tend to cause personal injuries. A good safety program must be anticipatory, remedial and positive.

All possible conditions should be anticipated so that action can be taken to prevent accidents before they occur. Circumstances, however, will arise that could not have been anticipated. It is then necessary to take remedial action so that the same type of accident will not happen in the future. Safe methods of conduct must be outlined and unsafe methods of conduct prohibited.

A safety program must, to a large extent, be based on past experience. Today's safety program must take into account yesterday's experiences. Tomorrow's safety program must include the experiences of today.

The safety program in our school can be divided into five topics:

1. Traffic problems between home and school
2. Safety in the school building
3. Safety in the gymnasium and on the school yard
4. Fire alarm system
5. Review and reconsideration of the safety program.

There are about 1,250 students enrolled at Lafayette school. Each child comes to school twice a day and returns home twice a day making a total of four daily trips to and from school, or 5,000 home-to-school and school-to-home trips each day. There are 190 actual school days in each year so that there are approximately 950,000 home-to-school and school-to-home trips each year.

In order to protect our children on all of these trips, the Lafayette school has a traffic patrol of 40 boys. These boys are under the immediate supervision of the physical education teacher and under the general supervision of the assistant principal. Only those boys who are reliable, trustworthy, dependable and civic-minded are chosen for patrol service.

Before being assigned to duty, each member of the patrol must complete a course of training to familiarize him with his duties and responsibilities. He is trained to be courteous and he must subject himself to rigorous discipline. The only compensation that a patrol boy gets is the satisfaction that he is performing a worth-while civic duty.

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MR. MONELL is principal of Lafayette school, Chicago, Illinois.

Safety Education for December, 1949

The city park district assigns one patrolman to school crossing duty at the corner of Augusta boulevard and Washtenaw avenue. Recently, at the request of Lafayette school, the park district made a traffic survey along Augusta boulevard from Rockwell street, the east boundary of the Lafayette school district at Augusta boulevard, to Sacramento boulevard, the west boundary of this school district.

It was found that the main flow of vehicles on Augusta boulevard was through traffic. Very few cars made right-hand or left-hand turns off Augusta boulevard between the district limits. Omitting the corner of Sacramento and Augusta boulevards, since only the east side of Sacramento is in the Lafayette school district, there is only one traffic signal light, the one at California avenue on Augusta boulevard. The amount of traffic crossing or entering Augusta from the other streets in the district was found to be small enough so that school patrols stationed at these corners were sufficient to safeguard the children crossing the streets which intersect Augusta or end at Augusta.

At the corner of California avenue and Augusta boulevard, it was found that the main flow of vehicles on California was not through traffic but was right-hand and left-hand turns onto Augusta. For the 15-minutes from 8:30 a.m. to 8:45 a.m., on the average week day, it was found that there were about 15 right-hand and left-hand turns west onto Augusta, and in the same period there were about three times as many—50—right-hand and left-hand turns east onto Augusta.

The number of right-hand and left-hand turns, both north and south onto California, was so small as to present no traffic hazards to school children crossing California on either the north or south side of Augusta. However, even three or four turns east onto Augusta boulevard per minute at the time children are coming to school constitutes sufficient danger to the pupils of this school so that they should not be allowed to cross Augusta at California.

The park district recommended that all children living on the south side of Augusta or south thereof should cross Augusta at the west side of Washtenaw avenue. The extra distance involved for those students who live south and west of the school is only about 450 feet. Inasmuch as there is no part of the district south and west of the school more than four blocks from school, it was felt that a 50-

(Please turn to page 38)

# ★ ★ ★ ATTITUDES

by D. W. CONOVER

**T**RAGEDY on the highways has reached alarming proportions. This unnecessary loss in human lives indicates something is lacking in our highway safety programs. Authorities contend that the human factor is basic in the causation of accidents.

The penalty for ignoring the underlying psychological basis of human behavior and for disregarding the accidents attributable to the human element is reflected in the upward trend in highway fatalities. As pointed out by one authority, much official attention is limited to examination of the driver's manipulative ability.

One of the most frequently cited reasons for accidents, aside from physical or mental disabilities from whatever cause, is bad attitude of the driver. A study has been made at New York university in an attempt to determine why certain persons are better, safer drivers than others.

In this study, accident repeaters were put through a series of tests designed to uncover

deficiencies in their knowledge of motor vehicle operation and traffic regulations. Few deficiencies were uncovered — the drivers seemed to know all the answers. They were put through an actual road test, and came out with good scores. These drivers were physically sound; they knew the answers and could skillfully manipulate their automobiles, but continued to have accidents.

It was not until the investigators studied emotions that possible reasons for accident proneness were discovered. They discovered that accident repeaters have a different set of attitudes toward traffic problems than ordinary drivers. Similar studies made earlier at Iowa State college and at Ohio State university have led public safety officials, educators and psychologists to the conclusion that teaching proper attitudes toward safe driving is a most fruitful approach to successful accident prevention.

Attitudes vary with education, training, experience and background.

Psychologists have devised scales by means of which an individual's attitudes may be determined. The measurement of attitudes may

MR. CONOVER is in the psychology department, Iowa State college, Ames, Iowa.

On the spot instruction as to the important parts of the automobile will help student attitudes.



# and ACCIDENTS

be effected either through the observance of overt behavior or through verbally expressed opinion. Whether or not a person acts in accordance with his attitudes is a question quite apart from the definition and measurement of them. A driver may feel impelled to push a road hog off the shoulder of the highway. Instead, he will wait until an opportune time to pass, inwardly raging at the road hog, and at the same time driving his own car down the middle of the highway quite unaware of his own thoughtlessness.

In an investigation we are conducting at Iowa State college, a modified form of the Iowa State Multi-Attitude scale is being used in the measurements of attitudes toward the socialized aspects of driving.

A few results of the investigation may throw some light on the desirability of certain driver training methods, and may show the importance of placing special emphasis on development of attitudes.

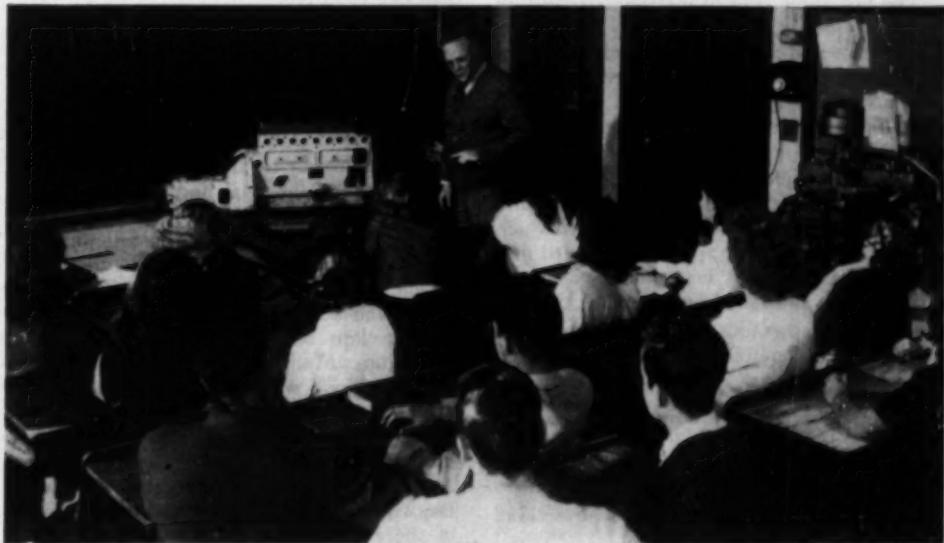
Results of one phase of the investigation showed little favorable shift in attitude on the part of the students toward the safe driving of the automobile when the behind-the-wheel

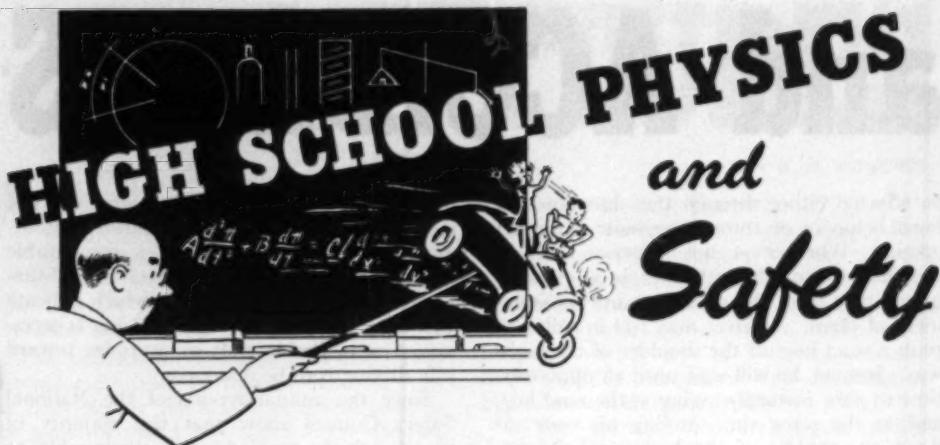
portion of a driver education course was not included. Data obtained from subsequent administrations of the scale to a comparable group, except for the addition of behind-the-wheel instructions, gave results which indicate that actual behind-the-wheel training is necessary if a favorable shift in attitudes toward safe driving is to be obtained.

Since the annual reports of the National Safety Council show that the majority of motor vehicle accidents are attributable to factors under the control of the driver, it becomes increasingly evident that the attitudinal behavior of the driver plays an important role in highway traffic accidents. If it can be ultimately established that a permanent and desirable shift in attitudes may be accomplished through formal behind-the-wheel training, the latter will pay good dividends. Every teacher of driver training must study ways and means of creating stronger attitudes toward safety among his students.

It is in this area of attitudes and their close relationship to human behavior that renewed educational efforts must be directed if our highways are to become safer highways.

Classroom instruction on models of different parts of automobiles acquaints the student with them.





by FORREST J. BROOME

**T**HE high school course in physics can help prospective drivers understand the whys and wherefores of traffic regulations.

Laws of motion, gravity, friction, momentum, centrifugal force, velocity, acceleration, deceleration and other energies are working together or against each other in the automobile in varying proportions.

Each physical law is not a separate room of activity by itself. There is constant interrelation. Good driving and pedestrian habits are closely related to the physical laws.

### Laws of Motion and Energy

The first three laws of motion described by Newton (inertia, force necessary to change momentum and action-reaction relations) are applicable in the process of starting and stopping a car. Every student should understand something of the effect of motion upon the automobile.

The automobile possessed of energy of motion would coast indefinitely if it were not for the energy being used by friction, which increases as brakes are applied. Forward motion is changed into heat and wearing of brake drums plus heat and wearing of tires.

One of the methods of computing original speed of an automobile involved in a smashup

is by the energy method. Using  $KE = \frac{1}{2} W$

it is possible to solve for original speed.

MR. BROOME is in the safety education department, Detroit (Mich.) Public schools.

### Physical Laws and the Brakes

When stopping a car, friction (and coefficients), gravity, acceleration, deceleration, velocity and energy are a few of the physical laws that are applicable to the action.

A definition of terms is needed before problems are considered. For example, total stopping distance refers to the distance traveled from the time the vehicle operator sees the need for braking until the car is stopped. This includes reaction time in which three-fourths of a second is average. Actual braking time also will depend upon road surface, efficiency of brakes, speed and whether or not skidding occurred.

A term which is commonly used in traffic studies is per cent of braking. This is defined in the relationship:

$$\frac{\text{Braking force in pounds}}{\text{weight of car}} \times 100 = \text{per cent of braking}$$

An automobile is said to have 100 per cent braking when the retarding force which the brakes exert is equal to the weight of the car. The per cent depends upon the size and condition of the brake drums and the force with which the brakes are applied, plus mechanical advantage of the braking system. The average car develops about 60 per cent braking at maximum. Many states require 44.6 per cent braking which would be equivalent to stopping in 30 feet from 20 mph.

There are many variables in the term "coefficient of friction" which can be thought of as equal to "the retarding force exerted when the wheels are skidding divided by the weight of the car." Before skidding, friction in the

brake drum is doing work of stopping. In determining coefficient of friction, composition and tread of tires, type of road surface, condition of road surface (wet, ice, temperature, etc.), and weight of vehicle must be considered.

Tests reveal that the coefficient of friction of new tires at 10 mph is about 90 per cent on dry Portland cement concrete but falls to 60 per cent when wet. Asphaltic concrete goes down to 80 per cent, and brick surface falls to 65 per cent when wet.

Stopping a car is more than putting pressure on a brake pedal. Many drivers fail to realize that skidded stops are less effective than one not skidded. The sliding friction of brake lining against the drum is the primary factor in all stops. However, road conditions affect stopping distances regardless of good brakes. Testing the performance of a car on varying road surface helps one to realize the feel of a car under wet, icy and dry surfaces.

It must be remembered that a dry, clean concrete road would show relatively less skidmark than the same road when wet or splotched with oil or dirt.

Skidmarks play an important role in determining accident cause and responsibility. The accident skidmarks of all four wheels are measured and averaged. The distance is plotted on a "speed-skidmark" chart. Then the average skidmark length of three test stops under conditions similar to the accident is determined. Both distance and speed are plotted to determine original speed.

An algebraic formula can be used and answers vary a few tenths in mph from the graphic calculation. Thus:

$$V = \sqrt{\frac{S}{s}} \quad v = \text{mph}$$

Where  $V$  is original speed  
 $v$  is test speed  
 $S$  is measured accident  
skid distance  
 $s$  is test skid distance.

Many drivers, after having their car brakes overhauled, will tend to increase their speed out of all proportion to the added safety new brakes afford. To emphasize this, physics problems can bring out that greatly improved brakes allow an increase of safe speed amounting to only a few miles per hour. For example, brakes about 54 per cent efficient, or being able to stop the car in 39 ft. from 25 mph, are adjusted to give 67 per cent braking, or stopping in 20 ft. from 20 mph. The car can go only 28 mph and yet stop

within the original 39 ft., or an increase of 3 mph.

"Ice and snow increase braking distance from three to twelve times that required on dry pavements. Wet ice is twice as slippery as dry ice." This conclusion was reached by the committee on Winter Driving Hazards of the National Safety Council. General concepts regarding driving hazards during winter should be a part of every high school course for future drivers.

Tire chains reduce braking distances 40 to 50 per cent. Tire chains bite into ice regardless of temperature.

### Centrifugal Force

Safe speed on curves is regulated by friction of pavement and tires, superelevation of curve, radius of curve, weight of vehicle. On dry concrete curves, a car can go so fast as to produce a side thrust equal to 15 per cent or more of the weight of the car. On wet ice, the side thrust cannot exceed 7 per cent without causing dangerous skidding. A relation which will give a safe maximum speed on a curve is stated in the following formula:

$$V^2 \text{ (maximum mph)} = 15 r (e + f)$$

Where  $r$  = radius of curve in feet.  $e$  = superelevation in feet per foot.  $f$  = sideways friction coefficient.

The superelevation on most highway curves varies from zero to 0.10. As  $f$  approaches the coefficient of friction of the road surface the sideward skidding occurs. When  $f$  goes over 0.20, the passengers of a car get an uncomfortable thrust.

Problems calculating the centrifugal force on a vehicle can be solved when the speed, weight of car and radius of curve are known. Thus: A 3,700 -pound car rounded a highway curve with a radius of 800 ft. and was going 40 mph. What was the centrifugal force upon the car?

Using:

$$F = \frac{W \times V^2}{r}$$
$$F = \frac{32.2}{r} \times \frac{3700 \times 40^2}{800}$$
$$F = 230 \text{ pounds.}$$

If drivers thoroughly understand the above relationships and physical laws involved, the reasons for not applying brakes when a sideward skid occurs on a curve is evident. Also the safe driving habit of turning front wheels in the direction of slide has its foundation in physical laws involving rolling and sliding friction.

# BICYCLE PROGRAM

by J. H. McBURNEY

IT IS fun to ride a bicycle. It is also a healthy means of transportation for the boy or girl who must travel a mile or more to school. Riding a bicycle can be comparatively safe, or it can be extremely dangerous. With our traffic-jammed highways and fast driving on side streets, boys and girls need to be carefully instructed before being permitted to ride bicycles freely.

Webster City is an Iowa community of about 8,000 persons. During the school year, in good weather, we usually have 200 or more bicycles in the racks on the playgrounds of our schools. In 1945, a cycle club was organized by our junior high school principal. The boys and girls of junior high, as well as those from the fifth and sixth grades of our central building, have been most active in this organization, but all riders in the city are eligible for membership.

Sponsoring organizations, the police department and the office of the county sheriff, working through the cycle club give riding tests, examine bicycles, and issue licenses.

Our playground is marked off in white with lanes and circles. Each new rider is carefully tested on his ability to mount and dismount, to come to a stop at a given point, to turn to the right and to the left. He is also tested for his knowledge of the safety code of the club. His bicycle, too, is carefully examined and, if both rider and bicycle pass the test, a license is issued.

The real work of the club is, of course, its educational program. Officers of the club explain the safety code and see that the members in their homerooms understand and learn the code. Teachers help to make the boys and girls safety conscious. Films and lectures are provided.

The cycle club patrol consists of a chief and 16 captains, one from each homeroom. This patrol is responsible for policing the school bicycle racks, enforcing the rules set up by the student members and seeing that all riders are familiar with the rules for safe riding.

When members of the club violate the rules of the club, either on the school playground or elsewhere in the city, the violation is reported to the homeroom captain. The viola-

tion is discussed by the homeroom and some kind of penalty is exacted. A second violation of the same rule will bring the member before the bicycle court, which consists of the 16 captains.

Enforcement has been no serious problem. At first there was some resentment, but the students now seem to appreciate the club and membership in it. They value their membership cards. The Elks club provides the card and a holder which can be fastened on a bar of the bicycle.

Through the club, the boys and girls learn democratic procedure. They learn that laws and rules are passed or enacted for their own safety and the safety of the group. They learn, too, that laws and rules are of no value unless they are obeyed and enforced. Through the club they are made aware of the many hazards to safe bicycle riding and of the dangers of careless and reckless riding.

The educational work of the club membership is confined to the school year and is largely a function of the school, but membership in the club continues throughout the entire year.

In addition to the safety code, the cycle club has a few local rules regulating such matters as riding bicycles on the school grounds and crossing the streets around the school only at patroled intersections. The code itself is the list of 10 rules suggested by the Bicycle Institute of America.

One of the most interesting features of the program is the annual bicycle day parade in which members compete for the best decorated bicycle. Races and other contests provide entertainment and competition.

Webster City civic organizations have all co-operated to further our bicycle program. Together they have supplied most of the funds that have been used for educational booklets, films, supplies and awards. An illustrated manual, "Bicycle Safety Guide", prepared by the police and sheriff's council, was supplied to all bicycle club members.

A reflecting tape has also been furnished for all bicycles. This is helpful for those who ride bicycles after dark. We believe that our school bicycle patrol has played an important part in helping Webster City to become one of Iowa's safest cities.

MR. MC BURNEY is superintendent of public schools, Webster City, Iowa.



# School Parties

## Statistics

1. There are no national statistics available on the number of accidents resulting from school parties.

## The Problem

2. Parties have long been a part of school activities, and rightly so, since they teach children how to get along socially with their fellow men—a point not always included in the three R's.

3. The school parties where accidents are most likely to occur are those where costumes are worn. There are, however, certain potential hazards at any school party, with or without costumes.

## Costume Parties

### Costumes

4. Children should be discouraged from wearing costumes that are gauzy or filmy or made of paper. If such costumes are worn, they should be made flame-resistant. With the gauzy or filmy type, this can be done by saturating them in a solution composed of nine ounces of borax, four ounces of boric acid and one gallon of water. After the material is thoroughly saturated, it should be wrung out by hand and hung to dry. This process will not take away flexibility or softness of the material. If the fabric is washed after the treatment, the process must be repeated—and after each subsequent washing. There are

several commercial products available today for making paper costumes flame-resistant. Be sure the product you purchase has the approval of the Underwriters' Laboratories, Inc., or the National Board of Fire Underwriters. Some of these products do not come up to proper, safe standards.

5. If a costume *should* catch on fire, the victim must never run! This will only fan the flames. To smother the flames, the victim should be placed at once in a horizontal position and immediately wrapped in a rug, blanket, coat or any type of covering available. Wrap the covering around the neck first to keep flames and poison gases away from the face. If there is no covering available, the flames may be smothered by rolling the victim over and over on the floor. Under no circumstances should persons in costume come near an open flame of any kind.

6. Do not have costumes too loose or too long. They may cause tripping accidents, particularly while going up or down stairs or through corridors.

7. If children go to the principal's office or to other classrooms to show off their costumes, they must be warned to be extra-careful on

stairs, etc. Obviously any such excursion should be supervised.

8. Costumes which "require" guns or any other type of play-weapon should be checked by the teacher to see that no real guns (sometimes fully loaded) and knives are brought into school as part of the costume.

9. If masks are worn, they must fit well so that vision is not limited—either straight ahead or from side to side. Also, the eye holes must be large enough and with smooth edges so that there is no possibility of cutting or otherwise injuring the eyes.

10. Masks must be removed before eating. Trying to eat through a mask may cause a person to choke.

11. Part of the planning for any costume party is to impress those wearing costumes that they must not be worn to and from school and should never be worn while riding a bicycle. All of the inherent hazards of costumes and masks are magnified outside of the school and may cause a serious accident.

#### Decorations

12. Jack-o-lanterns should never contain lighted candles. Fire danger is too great. A small flashlight will be safer.

Classroom activity in all sorts of games help make school parties a success for the children.



13. Never cover light bulbs with paper or any other kind of flammable material. Colored, gelatin type fireproof coverings are sold for this purpose.

14. All paper used for decorations should be made fire-resistant. The same solution for making paper costumes fire-resistant may be used.

### **Christmas Parties**

#### **Precautions and Safety Suggestions**

15. When putting up a Christmas tree for a school party, the first consideration for safety is to place the tree where it will not block stairs or other exits.

16. Make sure the tree is fresh and that it rests on a firm base which can be filled with water. This will reduce the fire hazard and preserve the tree.

17. *Never* put candles on the tree.

18. Always keep a fire extinguisher or a bucket of water close at hand.

19. Don't use makeshift ladders or reach too far while decorating the tree. Use a sturdy stepladder and move it when necessary.

20. Check carefully, tree lights and wiring for any signs of fraying or wear.

21. Don't overload any circuit with tree lights or other electric equipment.

22. Use nonflammable ornaments of glass or metal, and never put any flammable material, such as cotton or paper, under or on

the tree. Use flameproofed "snow," such as flake asbestos and powdered mica.

23. Do not hang "icicles" of metallic tinsel near metal parts of light sockets or metal parts of wiring circuits; they may cause a short circuit and a possible fire. Also, do not place icicles made from thin strands of plastic foil so they touch the tree light bulbs.

24. Since nonflammable decorations or ornaments may be glass or very thin metal, care must be used in handling them to avoid cuts or scratches, if they should be broken.

25. Turn off the tree lights when there is no adult in the room.

26. Remove the tree before it dries out and becomes a fire hazard.

27. If there are presents at the Christmas party, keep a large box or wastepaper basket nearby for quick and convenient disposal of gift wrappings. The less paper there is near the tree, the less danger there is of fire.

### **All Party Safety**

#### **Games, Etc.**

28. Games played at school parties must be very carefully supervised to avoid injuries to the participants. This is especially true in blindfold games or other games requiring moving about.

29. Parties often excite young children to the point where they may become a little "wild" and careless. The children should be warned and watched to see that they do not

Costumes should be made of nonflammable material. The use of costumes made of paper and other flimsy materials should be discouraged because of the fire hazard involved.





Classroom decorations should be nonflammable and no candles should be used in the room.

slam doors on each other or race up and down the halls or around the party room. Horseplay or scuffling should be discouraged.

30. If there are gifts or prizes, they should not be left lying around where they may be stepped on or tripped over.

#### Food

31. Spilled food or drinks are a slipping hazard. Clean them up immediately.

32. Children must be kept away from any equipment used in preparing hot food. Place a hot plate, or any other type of cooking unit, so that children cannot run up against it and knock it over or get between the unit and the wall. See that the electric cord is not a tripping hazard.

33. Don't place cooking equipment near window curtains. They may blow into the flame or heating unit and cause a fire. Remove any school work or other papers on the walls that are near the burner.

34. Candles should not be used on birthday cakes at school parties.

35. Keep knives and other sharp utensils where children cannot handle them.

36. Be sure that all children at the party are calmed down before being allowed to eat, otherwise they may be so excited they may choke.

#### General Precautions

37. Have the school custodian inspect platforms and other articles constructed for school parties to see that they are safe. Do not permit

anyone to help in such construction unless he knows how to handle tools safely.

38. Be sure that extension cords are placed so that they cannot be the cause of tripping, and do not overload any wiring circuits. The fire department will be glad to inspect temporary lighting and decoration arrangements.

39. Don't block exits or overcrowd the party room with chairs. This is sometimes done when parents attend their children's school parties. Sometimes several parties being held in individual rooms are combined and held in one room, such as the school auditorium or gymnasium. In this case, extra precautions are necessary regarding exits, placement of chairs, overcrowding, etc. The local fire department will inspect all such temporary arrangements and will, upon request, send a fireman to remain on duty in the party room until the party is over.

#### Sources

40. CHRISTMAS TREE FIRE PREVENTION. 1 p. (Mimeo.) Chicago, Ill.: National Safety Council. 1948.

41. KEEP CHRISTMAS MERRY. 11 pp. Illustrated. New York, N. Y.: National Board of Fire Underwriters. 1949.

42. LET'S HAVE A PARTY! Jerome Leavitt. *New Mexico School Review*. April, 1949.

Other Safety Education Data Sheets now available are: (1) Bicycles; (2) Matches; (3) Firearms; (4) Toys and Play Equipment; (5) Falls; (6) Cutting Implements; (7) Lifting, Carrying and Lowering; (8) Poisonous Plants; (9) Electric Equipment; (10) Pedestrian Safety; (11) School Buses; (12) Flammable Liquids in the Home; (13) Passenger Safety in Public Carriers; (14) Chemicals; (15) Hand Tools; (16) Non-electric Household Equipment; (17) Sidewalk Vehicles; (18) Camping; (19) Alcohol and Traffic Accidents; (20) Cooking and Illuminating Gas; (21) Solid and Liquid Poisons; (22) Safety in the Gymnasium; (23) Laboratory Glassware; (24) Places of Public Assembly; (25) Fireworks and Blasting Caps; (26) Domestic Animals; (27) Swimming; (28) Small Craft; (29) Play Areas; (30) Winter Driving; (31) Night Driving; (32) Winter Sports; (33) Traffic Control Devices; (34) Safe Conduct in Electrical Storms; (35) Poisonous Reptiles; (36) Motor-Driven Cycles; (37) Animals in the Classroom; (38) Railroad Trespassing; (39) Bad Weather: Hazards, Precautions, Results.

Data sheets from SAFETY EDUCATION are available at small fee from National Safety Council, 20 N. Wacker Dr., Chicago 6, Ill.



by JOHN M. HURLEY

**B**RADLY speaking, the goal of the safety program is to provide youth with those knowledges, habits, skills and attitudes which will lead to greater safety to self and others in both school and home situations.

Schools in general and school shops in particular are entering upon an increasingly safety-conscious period in their respective developments. The inculcation of efficient and safe work habits grows daily more imperative for the protection of life and limb in the immediate present and in the student's future. The most effective safety education is that which is part and parcel of the curriculum, which stresses safe methods as the correct and efficient procedures.

The board of education of the city of New York maintains a complete record of all data pertaining to school shop accidents for three

important reasons. First, the information is valuable as a means of determining accurately the accident experience of the schools so that proper corrective steps can be taken and the proper type of educational program planned. Second, the data obtained and compiled by the shop safety supervisor in chart and diagram form are useful as a means of direct instruction in student safety education. Third, this information is necessary for use in considering claims brought against the board.

#### **Breakdown of Shop Accidents**

Because of the more hazardous working conditions, it might be assumed that more accidents would occur in school shops than in any other area in the school. Such, however, is not the case so far as shops in the New York city public schools are concerned. The sampling study of school accidents for a recent academic year reveals fewer accidents occurring in school shops than, for example, in

MR. HURLEY is supervisor of industrial arts, New York city board of education.

gymnasiums and classrooms. Furthermore, the analysis of all school accidents in terms of school levels shows that the vocational schools have an accident rate of 9.5 accidents per 100,000 student days, a rate lower than that of either the elementary, junior high or senior high schools.

### Location of Accidents

Of the total number of accidents occurring in the school shops during a recent five-year period, slightly more than one third were in elementary and junior high shops, on a shop register of 117,000 pupils; about one fourth were in academic senior high schools, on a shop register of 46,800 students; and the remainder were in the vocational high schools, on a shop register of 55,250 students. More than half of all the accidents occurred in wood and metal shops, their respective per cent of the total being 32.5 and 18.8. In no other shop was the number of accidents greater than 8 per cent of the total.

### Equipment Involved

The bureau of vocational activities maintains a yearly summary of school shop accidents according to major equipment and objects involved. According to this data, the knife, chisel, handsaw, lathe, objects and equipment causing burns, sheet metal and the sewing machine were the agencies which most often figure in school shop accidents on a system-wide basis.

In the elementary school, four agencies accounted for more than 50 per cent of the accidents—handsaw, 18 per cent; chisel, 14 per cent; knife, 11 per cent; and sheet metal, 8 per cent. The other agencies had accident rates of 3 per cent or less.

In the academic high schools, 46 per cent of the accidents were accounted for by the following agencies—lathe, 17 per cent; chisel, 11 per cent; knife, 8 per cent; handsaw, 5 per cent; and drill, 5 per cent. Again, the other agencies had accident rates of 3 per cent or less.

In vocational high schools, five agencies—knife, 9 per cent; sewing machine, 7 per cent; objects causing burns, 7 per cent; lathe, 7 per cent; and falling objects, 6 per cent—accounted for 36 per cent of the accidents; while the other agencies had accident rates of 3 per cent or less.

For educational purposes, it is necessary to indicate the extent to which *any and all* tools and equipment are involved in accident situations. This has been done partially through a detailed breakdown of the shop accidents during the five-year period. This breakdown reveals that 93 per cent of all the accidents occurred in work situations and 7 per cent resulted from personal action not directly related to shop work, such as collision with another person, fighting (horseplay) and falls. The table below indicates the number of accidents

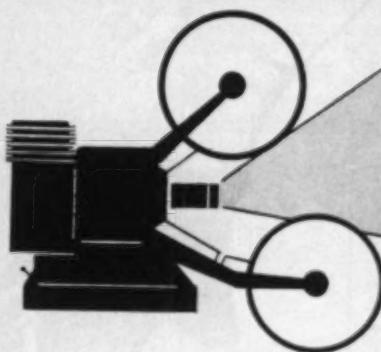
(Please turn to page 40)

### NUMBER OF SHOP ACCIDENTS BY EQUIPMENT AND OBJECT INVOLVED, FIVE-YEAR PERIOD

Equipment and Object	Number	Equipment and Object	Number
Knife	284	Wood, flying	46
Chisel	276	Soldering Iron	45
Handsaw	249	Grinder	38
Lathe	249	Screwdriver	35
Sheet Metal	150	Nails, Brads, Tacks	32
Sewing Machine	133	Broken Glass	30
Hot Liquids, Electric Wiring and Connections	96	Electric and Press Irons	30
Automotive Equipment	89	Vise	29
Chips, Miscellaneous	85	Kitchen Utensils	29
Tin and Wire	77	Gouge	28
Drill	68	Printing Press	28
Scissors	64	Brake	26
Pins and Needles	63	Curling and Marcel Irons	21
File	50	Wrench	20
Plane	50	Belt on Machines	20
Hammer and Mallet	49	Shaper	17
Wood Splinters	46	Try Square	17
		Miscellaneous	279

**Total Number of Accidents—2,848**

# Preparing School



by HAROLD HAINFELD

**S**CHOOL-MADE movies, filmstrips and slides fall into two classifications: First is the *public relations film*, generally not made for the student body. This type of aid will bring to the adult population knowledge of school activities that aid in making a safe community. Such films can be shown to civic organizations, parent-teacher groups and conventions of school and safety administrators. Movies and filmstrips offer an excellent method of publicizing and gaining support for the constructive work done in attempting to reduce accidents.

Second, the *specific purpose film* is made to meet the needs of the school safety education program. A "Coming to School" movie would be especially good for the primary grades. This would stress the proper place to cross the street, with or without a policeman present, when a light governs traffic, the proper side to walk on in rural areas.

How to act while waiting for, and riding on, the school bus would also make an excellent movie for schools where students use buses going to and from school.

Bicycle rules and laws of your city, shop safety and safe cooking habits could be stressed in films for the intermediate grades.

In the secondary school, movies or filmstrips could be made to aid the driver education, physical education and athletic programs. It is true that excellent movies have

been made commercially on the athletic and driver education programs, but seeing the expert in action is no guarantee of proper knowledge and habits. Moving pictures could be taken and errors pointed out.

Visual aids are not new to our school system, but based on the success of films in the training programs during the war, many more schools are using films as training aids. Similarly, there has been an increase in the use of the home movie and 35 millimeter still cameras for making movies and filmstrips.

School-made film aids can be made, with time and preparation, that will be of great value to the safety education program.

A film for public relations on the driver training program in your school could begin with the students reporting for their first class and continuing through the various phases to include the actual driver training on the road.

A film to point out faults can be taken with a telephoto lens at football practice or during game conditions.

By far the most difficult film to produce is the safety film to be used as a visual aid in the classroom. Basically the film should have the positive approach. It should stress the correct way to do a thing. The students who are acting the parts are not Hollywood stunt players. Exposing them to unsafe acts, for the sake of making a movie on safety, is unsound teaching. A serious accident might result. Instead of filming two persons riding a bicycle, film the correct act—one on a bike.

(Please turn to page 36)

MR. HAINFELD is a member of the committee on school-made films, department of secondary teachers, National Education Association.

# SAFE TOYS from Santa!

CHRISTMAS is the time when Santa's pack overflows with toys for the young members of the family. Mothers and fathers can help Santa by seeing that he delivers only well-made toys which really work, will stand hard usage and are safe. Price is not always an indication of quality. Examine the toys carefully, ask questions about them, and compare, before buying.

It would be well, also, to have a toy-buying plan. Each new toy should suggest new ways to play with old ones and all the toys will have a longer life.

*Courtesy Consumer Education department, Household Finance corporation, Chicago, Ill., from "Better Buymanship—Use and Care, Playthings."*



Between six and eight, imaginative games continue. Safe toys aid children's growth.



Safe toys for two- and three-year-olds—push, pull, carry and use in



Preschool children between three and four years old  
need toys that help the imagination and to imitate.



Older persons, from eight on, have special in-  
terests. Teach them proper, safe use of toys.

olds are those to  
struction of things.

# Safety Outline for Kindergarten

by MILDRED HANKS

**T**HIS safety unit for kindergarten pupils is especially designed for those who live in the urban areas of the country.

## I. Understandings

### A. Basic

1. In order to live happily we must learn how to live safely.
2. Cities provide helpers to protect our safety.
3. City traffic presents dangers to which we must always be alert.
2. We must learn rules for protecting ourselves in city traffic.
3. We need to learn the ways in which the police, firemen and health officers can help us live safely. We must learn how to make use of their protection.
4. When we live in a community where there are many people, we must learn how to get along with them so that all will be happy and live safely.
5. Home and school are places in which children are loved and protected but even there we must all be on guard against hazards.

## II. Approaches

- A. Discussions
- B. Dramatizations
- C. Pictures and posters
- D. Films
- E. Songs
- F. Stories, poems and finger plays
- G. Excursions and personal contacts

## III. Content

- A. Street safety
  1. Walk on sidewalks.
  2. Wait on sidewalk at intersection before crossing.
  3. Make proper use of traffic signal.
  4. Walk, do not run, across the street.
  5. Obey traffic policemen and patrols.
  6. Ride tricycles on sidewalk.
  7. Do not play in the street.
- B. School safety
  1. *Walk* into and out of the building; do not run.
  2. Walk in hallways and up and down stairs.
  3. Be considerate of others.
    - a. In moving about the building
    - b. In using equipment
      - (1) Sharing
      - (2) Taking turns at fountains and when using tools and apparatus
  4. Play on the playground, not in the street. If ball rolls into the street, look both ways

MISS HANKS is kindergarten teacher of Whittier school, Sioux City, Iowa.

before recovering the ball.

5. Avoid accidents by playing in the area on the playground designated for your group.
6. Obey signals promptly
  - a. Fire drill
  - b. Bells
  - c. Directions given by principal, teachers, custodian, patrols.

### C. Home safety

1. Keep things in their proper places.
2. Do not play with matches.
3. Use only the items in the medicine cabinet which you have been told you may use.
4. Be sure your hands are dry when you connect electric appliances.
5. Play in safe places.

**IV. Suggested dramatizations**, pictures and posters, songs, stories and poems, films, excursions and contacts which will help in the development of understanding.

### A. Dramatizations

1. The right way to cross the street.
2. What to do if one's playmates', or one's own, clothing catches fire.
- B. Pictures and posters
  1. Original drawings by children.
  2. Magazine pictures.
  3. Posters supplied by the National Safety Council displayed on bulletin boards and later made into scrapbooks and puzzles.
- C. Songs
  1. Safety First—Music Hour, p. 11. (Change "skip" to "walk")
  2. The Flagman—Music Hour, p. 40.
  3. The Traffic Light—Music Hour, p. 44.
  4. The Traffic Cop—Music Hour, p. 44.

### D. Stories

1. Streamlined—Another Here and Now Story Book by Mitchell, p. 303.
2. Make Way for Ducklings—Robert McCloskey.
3. Safe All Day With the Happies—Josephine Peace.

### E. Poems

1. A City Street—Told Under the Blue Umbrella—p. 87.
2. Stop—Go—Told under the Silver Umbrella—p. 85.
3. Engine—Told Under the Silver Umbrella—p. 85.

- F. Finger Play (an adaptation of an old favorite).

(Please turn to page 38)



December, 1949

# Lower Elementary Safety Unit

SCHOOL AND COLLEGE DIVISION—NATIONAL SAFETY COUNCIL—CHICAGO 6, ILL.

### *Teaching language arts, social studies, science and safety*

## Be Safe This Christmas

## HOME SAFETY



**Sketch S8714A**

Copy and—  
Choose correct answer

## 1. Children know



and



are safe playthings.

## 2. Use your



on the sidewalk.

### 3. Prevent



by picking up toys.

#### 4. Don't hurt



by looking.

by throwing things.

Answers to "Christmas Safety Tree"—1. *Build*—Don't ever cut young pieces of a evergreen tree; they are sharp and may injure you. 2. *Don't*—Tear ornaments off your tree. 3. *Break*—Don't run while carrying ornaments or sparklers. 4. *Break*—Don't run while carrying ornaments or sparklers. 5. *Break*—Don't break any ornaments, but if you do, never use them again. 6. *Break*—Don't eat dried fruits until you have been washed. 7. *Break*—Don't eat dried fruits until you have been washed. 8. *Break*—Don't eat dried fruits until you have been washed. 9. *Break*—Don't eat dried fruits until you have been washed. 10. *Break*—Don't eat dried fruits until you have been washed.

Prepared under the direction of Helen Halter Long, principal, Chatsworth school, Larchmont, N. Y.  
1 to 9 copies of this unit, 5 cents each. Lower prices for larger quantities. (Printed in U.S.A.)

## Christmas Safety Tree

Copy and—

Draw a line from each word to that object on the tree and tell a safety rule about it.



1. Ball	7. Sled
2. Darts	8. Bicycle
3. Roller skate	9. Doll
4. Train	10. Truck
5. Construction set	11. Blocks
6. Chair	12. Kite



# Upper Elementary Safety Lesson Unit

December, 1949

SCHOOL AND COLLEGE DIVISION—NATIONAL SAFETY COUNCIL—CHICAGO 6, ILL.

Teaching language arts, social studies, science and safety

## Be Safe This Christmas

### HOME SAFETY

#### Christmas Projects

1. On separate pieces of paper draw pictures of presents that boys and girls your age like to receive at Christmas. Mix up the pictures face down and have each pupil select one and tell a safety rule about it.
2. Your class might make lists of presents that would be welcomed by boys and girls your age. After naming a present, you might tell why you would like it and how it could be used safely. Your Parent-Teacher association might like to mimeograph such a list for parents and relatives, or your local paper might be interested in publishing it.
3. Read the play on the next page. Then, list three safety presents that would help make *your* home more safe. Also list *three* safety habits that would make you or some member of your family more safe.

#### Home Safety Check List

Copy and—  
Select correct answers.

1. Do you walk barefoot in dark rooms? Yes No
2. Do you leave your clothes, shoes and other things lying around the room on the floor? Yes No
3. Do you wipe up any water or grease or other spilled liquid immediately? Yes No
4. Do you always cut with the sharp edge of the knife blade turned away from you? Yes No
5. Do you remember not to touch a light switch with wet hands? Yes No

Prepared under the direction of Helen Halter Long, principal, Chatsworth school, Larchmont, N. Y.  
1 to 9 copies of this unit, 5 cents each. Lower prices for larger quantities. (Printed in U.S.A.)



Sketch S8714A

#### A Science Lesson That May Save Your Life

Are you afraid of gasoline? Well, you should be. We see gasoline put in our cars every day, and we ride with it in the gas tank of cars and buses all the time. Therefore, it is natural that we come to think of it as something completely safe and ordinary. But, it isn't. The constant danger of fire and fatal explosion from flammable liquids such as flammable cleaning fluids, kerosene and, especially gasoline, is extremely great.

Gasoline vapors are heavier than air and may flow in a stream that you cannot see as far as 200 feet away from the point where the gasoline is being used, and, at this great distance away from the source, the fumes could still flash and explode if they came in contact with even a tiny spark.

As a Christmas present to your home which is really worth while, find out whether gasoline, kerosene or any other flammable cleaning fluids are used by any member of the family. If anyone in your home uses them, explain that many people die from fire and explosions caused by the friction of rubbing clothes together in gasoline and other flammable liquids. If anyone in your home uses kerosene or gasoline to start a fire, explain to them that many people are killed every year from using them when an explosion follows.

Learn this safety lesson and stay alive. Don't play with or near gasoline, kerosene, lighter fluid, anti-freeze solution or any other of the dangerous flammable liquids. Remember that if there were an explosion because of use of these liquids, or from careless handling or storage of them, the chances are that you would not be alive afterwards to tell the story.

## Christmas with the Jones Family

### Cast

MR. JONES	MARILYN, age 13
MRS. JONES	BILL, age 11
JAMES, age 15	PEGGY, age 8

**Place:** *The Jones home.*

**Act I:** *At dinner time, two weeks before Christmas.*

*Mrs. Jones:* (to her husband) How did the safety council meeting go, dear?

*Mr. Jones:* I meant to tell you. I've been elected president.

*Mrs. Jones:* Why, how nice.

*James:* Congratulations, dad.

*Marilyn:* Dad, I've just been thinking. Now that you're president of the safety council, we'll all have to be especially careful to avoid accidents.

*Bill:* Say, it would look funny if the president couldn't keep his own family safe.

*Mr. Jones:* That is a fact, children. Wouldn't everyone laugh at me if I came to a meeting all bandaged up because *someone* (looking at Peggy) forgot to pick up her skates from the porch.

*Peggy:* Daddy, I'll never forget them again, honest.

*Mrs. Jones:* I know we'll all do our best to help.

*Mr. Jones:* Fine! I tell you what we'll do. We'll buy extra Christmas presents for everyone who can prove that the new present would help our family's safety record.

*Marilyn:* I've thought of something for my room!

*Mr. Jones:* Let's agree that everyone will have a week to hand in a Christmas safety present list.

*All:* Fine! Wonderful!

**Act II:** *After dinner, a week before Christmas.*

*Mr. Jones:* I take it you are all ready to read your safety present lists. You first, Marilyn.

*Marilyn:* A new bureau. The drawers of my old one stick so much that I don't dare close them for fear that I'll never get them open again. And when I leave them open I am always bumping into them.

*Bill:* What you need is more muscle, Marilyn, not a new bureau!

*Marilyn:* Listen, smarty, if anybody pulls too hard on that old bureau, the drawers are likely to come out the whole way and fall.

*Mrs. Jones:* I think Marilyn's right. She does need a new bureau or she will never learn to close a bureau drawer.

*Mr. Jones:* I'm convinced . . . a bureau for Marilyn. Now, James, you read your list.

*James:* Dad, I'd like a catcher's mask and chest protector for baseball, if that isn't too much.

*Mrs. Jones:* James, I'd rather have us do without something else than see you playing without proper protective equipment. They're on my list!

*Bill:* Dad, I need a few safety things on my bike—a new reflector, a basket carrier and I'd like one of those new jackets that shine in the dark. Then, walking or riding motorists can see me at night.

*Mr. Jones:* Good items, Bill.

*Peggy:* Daddy, I'd like some new shelves for my skates and games and things.

*Mr. Jones:* Peggy, you should have anything that will help you put your things away. And, now, mother, your list.

*Mrs. Jones:* I'm afraid my list is rather long. I find that we need a number of things to make our home safe—new rubber nonskid bases for our rugs, an attachment for a night light in the hall, a rubber mat and a grab rail for the bathroom and a stepladder stool for the kitchen.

*Mr. Jones:* Wait a minute! How much is safety going to cost? But, at that, I guess it isn't as much as a hospital bill if one of us were hurt. I'll tell Santa to get busy on these Christmas lists.

**Act III:** *Christmas morning. The family has finished opening Christmas presents. All seem happy and excited.*

*Bill:* I like this jacket!

*Marilyn:* I love this new bureau.

*James:* Dad, every year we thank you and mother for our Christmas presents. This year, since it is a kind of safety Christmas, we thought of an extra present to show our appreciation. This present isn't one that can be bought with money. This is it. Each of us thought of a safety habit that we should follow. I'm going to stop leaving things on the stairs to take upstairs later. I'm going up with them right away so no one will trip over them and have an accident.

*Marilyn:* I'm going to stop standing on any kind of wobbly support when I want to look on the top shelf of the cupboard or closet.

*Peggy:* I'm going to cut away from myself when I use a knife.

*Bill:* I'm going to use a flashlight instead of a match when I look for things in the closet so I won't start a fire.

*Mrs. Jones:* I'll add one, too. I'm going to use the handrail every time I come down the stairs.

*Mr. Jones:* What a wonderful family! We're not only set for a merry Christmas but for a safe and happy New Year, too!



# Junior High Safety Lesson Unit

December, 1949

SCHOOL AND COLLEGE DIVISION—NATIONAL SAFETY COUNCIL—CHICAGO 6, ILL.

For use in English, social studies, shop, art and homeroom

## Always Use Guards

### HOME WORKSHOPS

The home workshop can be fun. Craft hobbies and simple repair jobs interest nearly all members of the family. If you have a workshop in your home (and it is a workshop even if you have only a table and a few simple tools), or if you plan to have one, you should know how to work in it safely.

#### Dress the Part

Around machinery wear no loose or ragged garments, long sleeves, ties, jewelry or gloves.



Moving parts have lots of speed. And do not care on what they feed.

#### A Clean Place to Work

Keep spilled oil, water, grease, scrap and other slipping hazards off the floor.

When you finish a job, put tools, equipment and materials back in place.

#### Tool Talk



Remember half a dozen rules:  
And have no arguments with tools.

Prepared under the direction of Forrest E. Long, chairman of the department of secondary education, New York University, New York, N. Y., and Helen Halter Long, principal, Chatsworth School, Larchmont, N. Y. 1 to 9 copies of this unit, 5 cents each. Lower prices for larger quantities. (Printed in U.S.A.)



Sketch S8715A

#### Machine Manners

1. Be sure you know how to operate properly any machine before attempting to use it.
2. Stop a machine before you oil or adjust it.
3. Keep your hands and body out of the line of a power saw blade.

#### Projects

1. Make a survey of the home workshops in your friends' homes. Ask:
  - a. Which tools they use most.
  - b. Which tools they consider most dangerous, and why.
  - c. What have been the causes of any accidents that they have had in their home workshops.
  - d. What power tools or power machines do they have? What guards are on these machines? What precautions do they take when using their power machines?
2. List the tools and machines that the school shop teacher would recommend for a home workshop. Discuss the safe handling of each.
3. Plan a demonstration of two safe and well-organized home workshops—one with a minimum of simple tools and one with some power equipment. Local hardware stores might be willing to lend tools and equipment for display.
4. Send for the Walt Disney technicolor film "The ABC of Hand Tools" starring "Primitive Pete." This film is available from General Motors Corporation, Department of Public Relations, General Motors Building, 3044 West Grand Boulevard, Detroit 2, Michigan.

Answers to "Write your own slogan"—1. Slips do count for our side—keep floors clean! 2. A safe worker inspects them regularly—it pays to keep tools in good condition. 3. Watsamatter! Wanna lose an arm? 4. Keep electric cords in safe condition. 5. Not good if detached. 6. Tools don't cause accidents—it's the people who misuse them or misplace them. 7. A split-handle hammer or a mushroomed chisel, makes working a danger as well as a fizzle! 8. Jaws that show no mercy—keep all guards in place. 9. Reaching into moving machinery is just as dangerous.

Copy and—

### Write Your Own Slogan

In home workshop or school workshop or factory, attention to safety rules may save a finger, an arm, a leg or an eye! The safety slogans for the following shop safety posters drawn for the National Safety Council have been omitted. Try

planning your own slogans as you would place them on the posters. The answers will tell you what slogan was used for each poster by the National Safety Council. Art students might do an original poster and slogan for display.

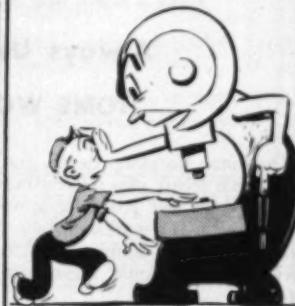
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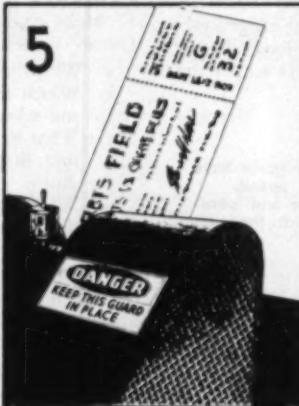
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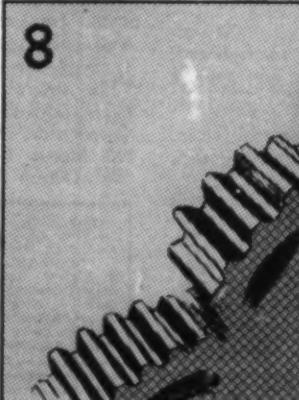
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# Senior High Safety Lesson Unit

December, 1949

SCHOOL AND COLLEGE DIVISION—NATIONAL SAFETY COUNCIL—CHICAGO 6, ILL.

For use in English, American history, American problems, shop, art, guidance and home room

## Always Use Guards HOME WORKSHOPS

### Why a Home Workshop?

Increased interest in hobbies and home repairs has made the home workshop one of the most popular spots of activity today, used by all members of the family. Home workshops may range from a small table with shelves for a few simple tools to a well-equipped section of the basement, or garage, with power tools. In every workshop, no matter what size, many hazards exist which ought to be recognized by every person using it.

In a small workshop you may not have available adequate space for orderly storage of tools and equipment—accidents may result from poor house-keeping. Most of our serious accidents occur in the use of machine tools. In those home workshops equipped with such machines, hazards are increased.

However, the cause of home workshop accidents can be avoided with a proper caution. After reading the following list of home workshop accident causes, decide whether any of the precautions would be difficult, expensive or time-consuming. Some common causes of accidents in home workshops are:

- ..... Not knowing correct way to perform the job.
- ..... Crowded and unarranged tools.
- ..... Using the wrong tool for the job.
- ..... Failing to use the guard on a power machine.
- ..... Failing to stop a machine before oiling it or making an adjustment.
- ..... Wearing long sleeves, ties, gloves, jewelry or loose or ragged garments around machinery.
- ..... Putting fingers and body in the line of a power saw blade.
- ..... Not clamping material when using a chisel or drill press.

Prepared under the direction of Forrest E. Long, chairman of the department of secondary education, New York University, New York, N. Y., and Helen Halter Long, principal, Chatsworth school, Larchmont, N. Y. 1 to 6 copies of this unit, 5 cents each. Lower prices for larger quantities. (Printed in U.S.A.)



ALWAYS use guards

Sketch S8715A

### Home Workshop Check List

Copy and—  
Fill in the blanks

1. Do you have a \_\_\_\_\_ for trash such as oily or paint rags and shavings?
2. Do you have a separate \_\_\_\_\_ (preferably metal) for paints, lacquers, thinners and solvents far enough away from the furnace or water heater to be safe?
3. When operating the band saw or circular saw, do you stand out of \_\_\_\_\_ of the blade?
4. Have you checked your electric switches to be sure that they cannot be closed \_\_\_\_\_?
5. Are all your portable electric tools \_\_\_\_\_?
6. Do you stop yourself from using the nearest tool when it isn't the \_\_\_\_\_ one; a screwdriver for a chisel or pliers for wrenches?
7. Are your machines \_\_\_\_\_ so that there is no chance of your getting injured by reaching over or around one machine to get to another?
8. Are your hand tools in good condition? Sharp? No mushroomed heads, no cracked \_\_\_\_\_ or loose \_\_\_\_\_, no files with exposed tangs?
9. Do your power tools have \_\_\_\_\_? Do you have push sticks for your table saw and jointer, and a \_\_\_\_\_ for your drill press?

Answers to "Home Workshop Check List"—1. Slips do you use for your shop—keep tools clean, 2. A slips do you use to keep tools in good condition, 3. Not tools in good condition, 4. Keep tools in order, 5. Worn handles, 6. Not tools in good condition, 7. A slips do you use to keep tools in good condition, 8. Handles, 9. Guards; etc. Answers to "Why Your Own Shop is Safe"—1. Slips do you use for your shop—keep tools clean, 2. A slips do you use to keep tools in good condition, 3. Not tools in good condition, 4. Keep tools in order, 5. Worn handles, 6. Not tools in good condition, 7. arranged as placed, 8. handles; 9. Guards; etc. Answers to "How to Use Your Own Shop" — 1. Carefully, 2. Cleaned or cleaned, 3. Not tools in good condition, 4. Keep tools in order, 5. Worn handles, 6. Not tools in good condition, 7. arranged as placed, 8. handles; 9. Guards; etc.

Copy and—

### Write Your Own Slogans

In home workshop or school workshop or factory, attention to safety rules may save a finger, an arm, a leg or an eye! The safety slogans for the following shop safety posters drawn for the National Safety Council have been omitted. Try

planning your own slogans as you would place them on the posters. The answers will tell you what was used for each poster by the National Safety Council. Art students might do an original poster and slogan for display.

1



2



3



4



5



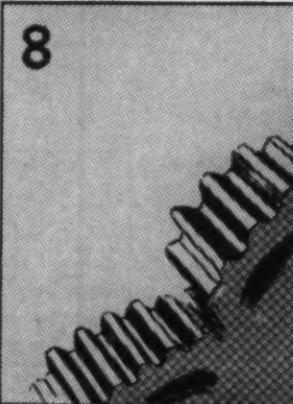
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# Safety Notes

## NEW TERMINOLOGY RECOMMENDED BY NATIONAL CONFERENCE ON HIGH SCHOOL DRIVER EDUCATION

The National Conference on High School Driver Education held in Jackson's Mill, West Virginia, October 2 to 5, approved a new terminology in the field of driver education.

It has been customary for most persons in this field to refer to classroom instruction as driver education, and behind-the-wheel instruction as driver training.

The Conference approved the following terminology:

*"Driver education*, as used herein, (in the Conference report) refers to all those learning experiences provided by the school for the purpose of helping students to learn to use motor vehicles safely and efficiently.

- (a) *Classroom instruction* in driver education programs refers to those learning experiences which are provided elsewhere than in an automobile.
- (b) *Practice driving* refers to learning experiences in driver education provided for the student as an observer and student-driver in an automobile."

As soon as the final draft of the Conference's policies and recommendations is available, **SAFETY EDUCATION** will carry a full report on this conference.

### YOU'LL STAND!

Chicago, Ill.—Christmas comes but once a year, and in many cases there are sighs of relief because it does. Such feelings do not denote a lack of holiday spirit but often arise from a harried bout with all kinds of tools, wires, ropes and so forth used to erect the Yule tree. Then there is the worry of its possible toppling over on the children.

These difficulties and worries may now be safely eliminated with a recently manufactured Christmas tree stand. The stand is of heavy-gauge metal and shaped like a huge angel food cake. It is designed to accommodate trees up to nine feet high, with no need for extra bracing or supports. The tree is quickly and simply set into a metal ring surrounded by three screw-in braces.



Since one of the important safety rules for Christmas tree fire prevention is covering the base of the tree with water, the water capacity of the rustproof stand might well be expressed as three gallons of safety. And the weight of the water displaces the weight of toppling over worries.

### LEND ME YOUR EARS

Oklahoma City, Okla.—Dan Hollingsworth, manager of the Oklahoma City Safety Council, has compiled and edited a manual for the use of the speakers bureau of the council. The manual tells the speakers how to give a good safety talk that will convey the message and hold the interest of the audience.

### KANSAS REPORTS

Topeka, Kan.—The fifteenth annual edition of the Kansas Student Accident Report, sponsored by the Kansas State Safety Council and compiled by the Kansas State Board of Health, has been released to the schools of Kansas. The report gives a complete student accident summary broken down into fatal and nonfatal categories. Safety suggestions for the home, in public, at school and for vehicles are included in the report. Two other features deal with a safety curriculum and initiating a safety program.

### SHOE X RAY DANGEROUS

Boston, Mass.—A recent study, made at the request of the Massachusetts Division of Occupational Hygiene and the Boston Better Business Bureau, has shown that x-ray fluoroscopic shoe fitting machines are a threat to the health of both customer and operator.

Most of the machines tested in Boston leaked excessive amounts of instantaneous scatter radiation, and, in addition, in many cases, were not operated safely.

The study conclusively proved that present

machines and methods of operation definitely lead to hazardous exposure to X radiation for all users or operators.

### SAFETY: LESSON ONE

The safety division of the Wisconsin State Motor Vehicle department has issued its newest safety folder, called "My First Lesson."

#### TO PARENTS . . .

Please take time to read this leaflet to your little girl or boy, and to re-emphasize its message.

Last year in Wisconsin, 35 children, nine years of age and under, lost their lives in traffic accidents. This doesn't include those who died as passengers in cars involved in accidents.

While greatest responsibility rests with motorists, there is much that can be done to instill safe walking habits in children. If a child can learn this "first lesson," his chances of living to enjoy all the other lessons of life will be greatly improved.

Safety Division  
MOTOR VEHICLE DEPARTMENT  
State of Wisconsin

**M**Y First Lesson is a lesson in SAFETY. It teaches me how to stay out of accidents and how to keep from getting hurt.



On my way to school and home again I must be careful when I cross the streets.



I must watch out for automobiles.

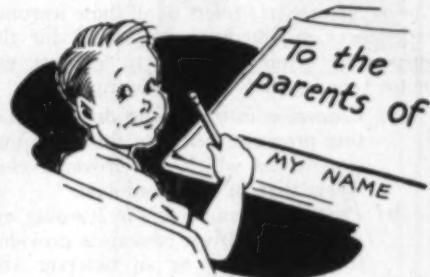
I must not play in the street.

The best way is to stay on the sidewalk and never cross the street until I come to a corner.

The folder—on pedestrian safety—is free and for distribution to the Wisconsin elementary schools in the kindergarten and first grades.

In a letter to all Wisconsin city and county superintendents of schools, the safety division reiterates the importance of teaching the very young child how to get to and from school safely—his first lesson. For convenience in ordering the leaflets, a business reply card is enclosed in each letter.

# My FIRST LESSON



When I see a traffic light at the corner, I must wait for the green light or the walk light before I walk across the street.

In the country, I must always walk on the left side of the highway.



I must listen to my teacher, my policeman, and my school safety patrol.

I will not get hurt if I remember to:

ALWAYS BE  
CAREFUL

## • BOOKS AND PAMPHLETS

**EVERYBODY'S HOME WORKSHOP ENCYCLOPEDIA.** Edited by *Popular Science*. 552 pp. Illustrated. New York, N. Y.: Grossett & Dunlap, Inc. 1949. \$2.98.

This book has been prepared by the editorial staff of *Popular Science* magazine and contains more than 1,800 illustrations. Many are in color. Whether you like to work with hand tools or power tools, this fascinating volume will provide you with an unending variety of projects to keep you occupied in your spare moments.

In addition to the excellent photographs of objects to make, the working drawings are clearly written for each step to be taken.

A special feature not to be found in any other workshop manual is a new project selection chart. This chart outlines the amount of time necessary for each project, the type of hand and power tools needed and the necessary material for construction.

The book's sections are divided into home projects, novelties, science problems, electricity and an excellent section on photography.

This encyclopedia has a wide scope of applications and is recommended for the home owner, the hobbyist, and could be used as a reference for teachers to assign interesting projects to students. Reviewed by **George MacDonald**, senior engineer, industrial division, National Safety Council.

**HOME REPAIRS MADE EASY.** Lee Frankl. 438 pp. Illustrated. Garden City, N. Y.: Nelson Doubleday, Inc. 1949. \$6.95.

This is an exceptional guide for every kind of home repair and alteration. With over 2,000 easy-to-follow pictures, simplified explanation, material saving ideas and other tricks of the trade, it sets up a job with professional appearance without professional help.

The book is divided into eleven specific sections covering all the necessary skills within

the home. Each section discusses the tools necessary, their correct use and the methods of keeping them sharp for various operations.

Throughout the various sections trade secrets have been brought to light so that the average home owner can proceed without contacting the professional worker. A good example of this is in the masonry and plumbing section. These two trades are prone to conceal formulas for mixing plaster and the methods of leading joints in plumbing.

Throughout the book reference is also made to approved materials and their relation to fire, electrical and local codes. This allows the average home owner to keep within the legal limits in his locality and saves expense in replacing material otherwise not approved.

This book should be a standing item on all home owners' book shelves. The sections on paper hanging and painting can be constantly referred to each year, especially during the decorating season. The section on carpentry, giving details on cabinet making, shelves and kitchenware, is an important section for spring remodeling. Reviewed by **George MacDonald**, senior engineer, industrial division, National Safety Council.

**ENCYCLOPEDIA OF HOME CARE AND REPAIR.** William J. Hennessey and William W. Atkin. 429 pp. Illustrated. New York, N. Y.: Lantern Press, Inc., and Toronto Can.: George J. McLeod, Ltd. 1948. \$3.95.

The authors of this book are, respectively, the architectural and building research editor and the assistant architectural editor of *The American Home* magazine. They know whereof they speak.

They have arranged their encyclopedia in dictionary form, with any necessary cross-referencing, which really simplifies locating the various building terms or parts of the house discussed in the book. In clear, simple language, building terms are defined, the parts of the house described, and directions given for exactly what to do if anything in the house goes wrong. Carefully drawn diagrams clarify difficult points.

Backed by specific research and working experience, where the authors feel that a repair job is beyond the ability of the average amateur home repairman, they do not try to suggest any action other than calling in professional help immediately.

EDUCATORS GUIDE TO FREE FILMS. Ninth Annual Edition. 355 pp. Compiled and edited by Mary Foley Horkheimer and John W. Diffor, M. A. Educational consultant, John Guy Fowlkes, Ph.D. Randolph, Wis.: Educators Progress Service. 1949. \$5.00.

ELEMENTARY TEACHERS GUIDE TO FREE CURRICULUM MATERIALS. Sixth Annual Edition. 348 pp. Edited by John Guy Fowlkes, Ph.D., and Donald Morgan, M.A. Randolph, Wis.: Educators Progress Service. 1949. \$4.50.

**MAGAZINES—** *various publications recently received containing articles of current interest on safety.*

ACCIDENT CAUSES IN PULP AND PAPER MILLS. Neil Nelson. *Loss Control*. July, 1949. p. 1 ff.

ACCIDENTS ARE TOO EXPENSIVE. William J. Deegan, Jr. *The American City*. September 1949. p. 140 f.

AGE VS. TRAFFIC ACCIDENTS. Herbert J. Stack. *The Casualty and Surety Journal*. Midsummer, 1949. p. 48 f.

AMERICA WARS ON TRAFFIC DEATH. *Public Safety*. July, 1949. p. 4 ff.

AS WAS—AND IS. *The American City*. September, 1949. p. 128.

BICYCLE TAXATION AND THE SAFETY PROGRAM. *The American City*. July, 1949. p. 15.

THE CASE AGAINST INADEQUATE VISIBILITY. Edmond C. Powers. *The American City*. July, 1949. p. 123 ff.

COLLECTIVE SHOULDERS "BEHIND THE WHEEL." Sarah Winston. *American Home*. September, 1949. p. 18 ff.

DARKNESS IS DANGER. J. C. Furnas. *Collier's*. February 12, 1949.

DEATH CUTS NO CORNERS. Thomas C. Desmond. *Hygeia*. July, 1949. p. 464 ff.

DOBBIN DIDN'T GO FAR—AND WASN'T VERY SAFE. *Automobile Facts*. September, 1949. p. 2.

DROWNINGS MOST FREQUENT IN JULY. *Statistical Bulletin*. June, 1949. p. 7 ff.

DRUNKEN DRIVERS. *The American City*. August, 1949. p. 17.

ELEMENTARY STUDENT COUNCILS GET THE JOB DONE. *Texas Outlook*. July, 1949. p. 10 f.

FIRE DETECTIVES. *Scouting Magazine*. September, 1949. p. 16 ff.

FIRST AID FOR YOUNG CHILDREN! *Watch*. Quarterly. Vol. X. No. 2. p. 6 ff.

GOING ON VACATION? *Watch*. Quarterly. Vol. X. No. 2. p. 2 ff.

GOSPEL OF HIGHWAY SAFETY—WILL YOU APPLY IT? *The American City*. July, 1949. p. 129 f.

HELP YOUR CHILD TO SAFETY. *The Children's Friend*. August, 1949. p. 343.

HOW SEATTLE COPE WITH DISASTER. *The American City*. July, 1949. p. 15.

LIFESAVING. Howard A. Carter. *Hygeia*. August, 1949. p. 530 ff.

MAKE THE JOB SAFE. Arthur S. Johnson. *Loss Control*. July, 1949. p. 8 ff.

MIRROR HALTS ACCIDENTS AT "BLIND" INTERSECTIONS. *Automobile Facts*. September, 1949. p. 6.

NATION'S MOTOR BUSES READY FOR "BACK TO SCHOOL" MOVEMENT. *Automobile Facts*. September, 1949. p. 8.

NEW CONCEPTS IN SCHOOL LIGHTING. Russell C. Putnam. *School Management*. July, 1949. p. 10 f.

PROMOTING EYE SAFETY. A. G. Bungenstock. *The Sight-Saving Review*. Summer, 1949. p. 79 ff.

PUPILS PROTECTED BY IEA MUTUAL PROGRAM. J. C. Hoglan. *Midland Schools*. September, 1949. p. 19.

RECOGNIZING THE VALUE OF DRIVER EDUCATION. Herbert J. Stack. *Industrial Arts and Vocational Education*. September, 1949. p. 275 f.

SHREVEPORT'S TRAFFIC RUNS MORE EASILY. Lynn H. Andrews. *The American City*. September, 1949. p. 171 f.

SO—LET'S KILL "BIKE BONERS." *Health and Safety*. June, 1949. p. 1 f.

TAKE CARE THIS SUMMER. *California Parent-Teacher*. July-August, 1949. p. 22.

VACATION SAFETY. *California Parent-Teacher*. July-August, 1949. p. 11 f.

VISION AND ACCIDENTS. Sidney J. Williams. *Public Safety*. July, 1949. p. 8 f.

WATER SAFETY. *Watch*. Quarterly. Vol. X. No. 2. p. 16 ff.

WHAT WOULD YOU DO IN AN ACCIDENT? Frances Newton. *McCall's*. August, 1949. p. 4 ff.

"YOU WOULDN'T HURT HER—WOULD YOU?" *The Casualty and Surety Journal*. Midsummer, 1949. p. 59.

# REDUCE TRAFFIC HAZARDS AT SCHOOL CROSSINGS



## WHITE RUBBER RAINCOATS

Also Yellow and Black

All rubber. Completely vulcanized. Absolutely waterproof. Suitable for winter and summer. Full cut sizes. Available with school, city or sponsoring club name on back.

## METAL PATROL BADGES



Lend official importance to patrol workers. Officers' badges have gold color finish—members', nickel finished. Come complete with pin clasp.

How?—With well organized—well trained—properly equipped school safety patrols.

Safety patrols will do a better job when outfitted with Graubard equipment—that is approved by leading safety organizations throughout the United States.

## ECONOMICALLY PRICED

These are only a few of the safety patrol equipment items made by

### GRAUBARD

"America's Largest Safety Patrol Outfitters"

Send for a catalogue of the complete Graubard line.

## IMMEDIATE DELIVERIES



### SAM BROWNE BELTS

White or yellow plastic, also white web—both completely adjustable. Rust proof metal hardware.



### GABARDINE CAPS

Snappy eight point style. Navy blue. Other colors on special order.

### ALUMINUM ARM BANDS



Colorful red and silver finish. Shield is curved to fit the arm. Furnished complete with leather strap.

# GRAUBARD'S

"America's Largest Safety Patrol Outfitters"

266 Mulberry St., Newark 5, N. J.

## Films

(Continued from page 19)

Of prime importance in making your own visual aids is knowing in advance what you want to film, what pictures you want to take. A simple script, to serve as a guide, will eliminate retakes and errors.

Films as teaching aids have great possibilities for safety education. During the recent war, great stress was placed on movies and filmstrips in the training period, and overseas. By observing two groups of trainees, it was discovered that 11 per cent more information was retained by grade school students and 17 per cent more by high school and college men when films were used instead of lectures.

Of course, films aren't the sole answer to our safety and accident prevention problems. But, it seems to me that films, with proper introduction and follow-up, can help improve knowledge, habits and attitudes.

Following are a few specific pointers and essentials for making visual aids:

Two sizes of film may be used in making school movies, 16 mm. and 8 mm. Both are manufactured in black and white or color. The 16 mm. film has 40 pictures per foot; the 8 mm. has 80. Four hundred feet of 16 mm.

or 200 feet of 8 mm. would be required to film an equal amount of action. The 16 mm. is suitable for use not only in the classroom but also in the average school auditorium. The use of 8 mm. is limited to the classroom because of the degree of enlargement possible.

Titles may be prepared commercially at a cost of about 50 cents for black and white and 80 cents for color film. A titler may be built in the school shop and attractive cards for titles could be made in the art department.

When splicing films together, it is important to keep them in left to right continuity. It is also advisable to vaporize the film to protect it from scratches, water and finger marks.

Indoor movies are difficult and require the use of floodlights. A minimum of two are needed for closeups, while three or four will be needed if larger areas are to be filmed. A light meter will aid in determining the proper lens opening to use. It is advisable to check on the fuse being used in the school. Be careful not to overload a circuit.

Color film adds much to the beauty of a movie but is far more expensive than black and white. Furthermore, it is difficult to get good results with color film on cloudy days or in deep shadows. Color film is manufactured in two types, one for outdoor shots and one for indoor shots. Be sure to use the proper film for the shots you are taking.

If a sound track is to be added to the 16 mm. film, plan for it in advance so as to run the camera at sound speed. To add sound increases the cost of the first print.

The use of phonograph records has not been generally successful. However, wire and tape recorders offer great possibilities.

While movies are one excellent visual aid for the safety program, some educators feel that filmstrips and slides are even better because they can be left on the screen for a longer time and so permit discussion while the picture is in view of the entire audience.

Filmstrips and slides can be made by taking the desired shots with a 35 mm. still camera, using direct positive film. For practical purposes this type of film is the same as pictures on film instead of paper. When developed, the dark objects are dark when projected, while on the regular negative they would appear a light gray. Both filmstrips and slides can be made with 35 mm. color film.

Filmstrips and slides can give step-by-step procedures. They are excellent in driver

## for SAFETY PATROL EQUIPMENT

Send for new circular of Sam Browne Belts, Arm Bands, Badges, Safety and School Buttons.

We can furnish the Sam Browne Belts in the following widths adjustable in size. The "Bull Dog" Brand Best Grade For Long Wear White Webbing 2" wide at \$15.00 Per Doz. \$1.50 each small lots.

### 3 1/4" ARM BANDS

Celluloid front — metal back. Web strap and buckle attachment. No. 33 Blue on white stock design JUNIOR SAFETY PATROL.



No. 44 Green on white

SAFETY COUNCIL PATROL UNIVERSAL SAFETY with title Patrolman or Captain  
Per Dozen ..... \$5.00 Lots of 50 ..... 28c each  
Lots of 25 ..... 30c each Lots of 100 ..... 25c each

### PATROL BOY RAINCOATS AND HELMET SETS

Dull finish black rubber, sizes 6 to 16. Safety Patrol Caps made to order. Blue, Black and Red.

Write for our Safety Patrol Circular  
OUR RECORD 49 YEARS

**AMERICAN BADGE COMPANY**  
By West Hubbard corner La Salle, Chicago 10, Ill.

# WHY FUMBLE?

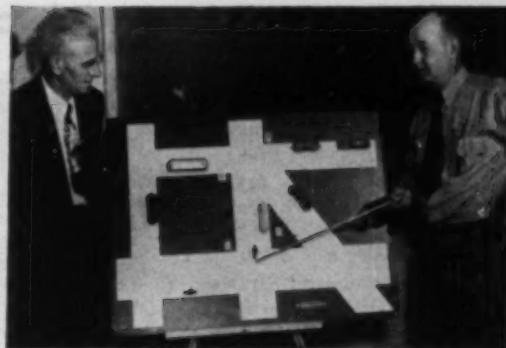
## AT LAST

Here is an aid that has proven practical in teaching visually the principles of Safety to School Children. It is simple, effective and will work wonders in practical education.

The Magno Saf-T Board is the result of studies by outstanding safety instructors and engineers.

It consists of a board with typical city street intersections on one side. On the other side is a blackboard on which any street or road situation can be drawn with chalk and then erased. There are scale models of vehicles, pedestrians, traffic markers and accessories that can be placed in any conceivable traffic situation. It can be demonstrated anywhere in a vertical position.

## MAGNO SAF-T BOARD EMIGSVILLE, PA.



**WRITE FOR OUR FOLDER  
IT'S FREE**

MAGNO SAF-T BOARD  
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Please send your illustrated circular.

YOUR NAME \_\_\_\_\_

STREET \_\_\_\_\_

TOWN \_\_\_\_\_

## TRAFFIC LIGHT INSTRUCTOR

Traffic Light Instructor considered by leading safety directors as a most effective way to instruct children on actual operation and function of street traffic signals.

Being used with high degree of success in kindergarten and elementary schools.

All steel construction — a four foot high replica of a regular traffic light.

Red, amber and green lights operate in accordance with standards for uniform traffic control devices.

Packed all assembled and ready to use. A.C. operated: For use in the classroom or wherever 110 volt A.C. electric current is available. List price \$24.75.

— Immediate delivery —



## SCHOOL SAFETY LIGHT CORPORATION

1114 Schofield Building

Cleveland 14, Ohio

Safety Education for December, 1949

training courses and shop classes where correct use of tools and machinery can be shown.

Whether movies, filmstrips or slides are made as film aids for the safety education program, there are basic considerations in preparing them properly.

1. The film should have the proper exposure. Films that are overexposed or underexposed have little value. A light meter will help get proper lens opening.

2. In addition to exposure, the camera should be focused correctly. Carefully measure the distance from camera to subject and set the camera for that distance.

3. Advance preparation is essential. This cannot be stressed too much. Know exactly what you want to portray in the picture and what pictures you want to show on the screen.

4. Use the positive approach in making a film aid. Students are exposed to too many "Don'ts". Show correct procedures.

Film aids for safety education may include safety for camps, playgrounds, industry, etc. Making these aids to fit the school needs will add interest to the school safety program, provide a valuable teaching aid, as well as a permanent record of school safety activities.

## PLASTIC SAM BROWNE BELTS FOR GREATER SAFETY



Available in either white or Federal yellow, these plastic belts glisten in the sun and are bright on dark days. Flexible—Smartly Styled—Adjustable—Easily Cleaned.

Federal Yellow Flags with desired lettering and Yellow Raincoats with Hats and Cape Caps to match complete the attire of your School Patrol.

*Endorsed by Safety Councils, Auto Clubs  
and School Authorities Everywhere*

**The M. F. MURDOCK CO.**  
AKRON 8, OHIO

## Outline

*(Continued from page 22)*

Two little houses closed up tight. (Hands closed up tight) Open up the windows and let in the light. (Open hands)

Ten little finger people tall and straight. Ready for kindergarten at half-past eight. (Fingers upright, arms moving up and down to imitate walking). They came to a crossing and looked to the left and to the right. (Two hands toward the left and right.) Cars were coming so they waited. Another car came. At last the street was clear. They walked along until they came to another crossing. They looked to the left and to the right. No cars were coming so they crossed the street and walked into the school.

### G. Films

1. Safety Patrol.
2. Going and Coming Safely.
3. Safe Bicycle Riding.

### H. Excursions and contacts

1. Go to a busy thoroughfare to watch cars, trucks and pedestrians.
2. Practice crossing street safely.
3. Visit the fire station; ask a fireman to visit the class.
4. Ask a policeman or a patrol to talk to the class about crossing streets safely.

## V. Bibliography of Teachers' Information

- A. SAFETY EDUCATION magazine.
- B. Growing Up Safely—Association for Childhood Education Bulletin.
- C. All Through the Day—Today's Health and Growth Series, Macmillan.

Dramatization of crossing streets safely.

Mark off an intersection on a large floor. Let some children be cars, trucks or streetcars. Other children may be pedestrians. Pedestrians must look both ways and wait until traffic has cleared before they can cross the street. This is a good activity to precede an excursion.

## Functioning

*(Continued from page 7)*

minute lunch period gave the children south and west of the school plenty of time for a noonday meal at home.

Since limiting the crossing at Augusta boulevard to the west side of Washtenaw, the motor club has made a traffic survey of the school district. Their findings with regard to Augusta agree with park district findings.

In addition to the patrolman stationed at the corner of Augusta and Washtenaw, the police department maintains a patrolman at the corner of California and Cortez.

From time to time, we plan to survey the entire placement of patrol boys in the school district and to relocate patrol stations.



## What Makes Buzzie write like this?

**BUZZIE** is just learning to write.

And every line he writes starts out with big letters and ends up with little ones.

The trouble is, he doesn't plan ahead. He concentrates on making those big letters, and lets the end of the line take care of itself.

Many grownups have the same trouble—not with their handwriting, but their money.

They blow it all at the beginning, and let the "end of the line" take care of itself. But it practically never does.

That's why the Payroll Savings Plan and

the Bond-A-Month Plan are such a blessing. They are "human-nature-proof."

When you're on one of these plans, the saving is done for you—automatically.

**And remember**, every U. S. Saving Bond you buy brings you \$4 in ten years for every \$3 invested.

So don't let your life run on like Buzzie's handwriting. Fix up the "end of the line" once and for all by signing up today for the Payroll Savings Plan—or, if you are not on a payroll, the Bond-A-Month Plan at your bank.

### AUTOMATIC SAVING IS SURE SAVING — U. S. SAVINGS BONDS



*Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.*

## TRADE PUBLICATIONS

The following publications are intended for the guidance of those responsible for the purchase of equipment to promote safety in the school. The coupon below will bring FREE to responsible school personnel any or all of those listed.

1. Driver Teaching Aid: A folder on a teaching aid that consists of a board with typical city and country road layouts, and magnetized vehicle models that can be placed to illustrate any conceivable driving or accident situation. Magno Saf-T Board.
2. "Our Flag—Emblem of Liberty": A folder illustrating all styles of national flags, school flags, banners, pennants, panel drapes and such accessories as flag poles, holders and stands. Graubard's, Inc.
3. "A New Tool for Teaching": A booklet on the story of sound films in the classroom, how they can be used, and their effectiveness in teaching. Ampro Corp.
4. "Duo-Washfountains": Bulletin on washfountains allowing two people to use washing facilities simultaneously. Automatic foot control keeps hands from contagious contact, the self-flushing bowl prevents dirt collection. Bradley Washfountain Co.
5. Maintenance Materials Catalog: A catalog on floor maintenance equipment for those interested in efficient, economical maintenance. Products include cleaning machines as well as waxes, cleaners and floor sealers. Continental Car-Na-Var Corp.
6. School Crossing Signals: A folder describing an electric flashing school signal that automatically operates to coincide with school hours, even to skipping week-ends. It has high visibility and is easily maintained with low operating cost. Crown Signals, Inc.
7. Projection Screen: A circular on hanging screens that do not distort pictures. Available with crystal-beaded or white mat surfaces, with tubular steel slat and reinforcing saddle, giving rigidity for projection of visual teaching material. Da-Lite Screen Co., Inc.

SAFETY EDUCATION

DECEMBER, 1949

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40

## Statistics

(Continued from page 18)

occurring in the use and handling of given shop tools, equipment and materials for the five-year period. It is evident that shop accidents are occurring in a great variety of work situations in which many different kinds of tools, equipment and work materials are being utilized. To be most informative the miscellaneous category in a tabulation should contain few items. It is quite possible that included in such a category will be information indicating a hazard which may lead to serious injury, although the number of accidents occurring therein may be few. *The frequency of accidents alone is by no means a true measure of the relative hazardousness of shop equipment and tools.*

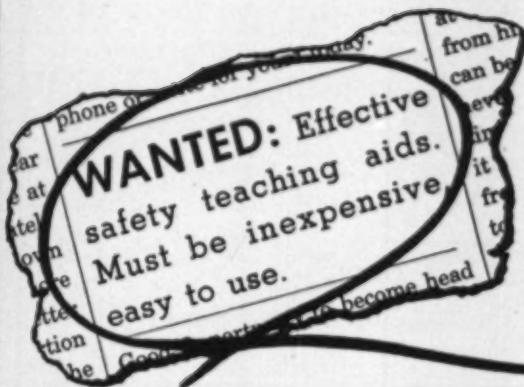
Of the accidents not involving directly shop tools and equipment but primarily the result of personal behavior, 92 occurred in collision with other persons, 78 were falls, 35 happened in fighting and 10 involved persons caught in doors. These accidents accounted for 7 per cent of all school shop accidents.

### Nature of Accidental Injuries

Skin injuries, such as cuts, lacerations and abrasions, occurred most often. These accounted for 85 per cent of all school shop accidental injuries. The distribution of the remaining 15 per cent of injuries was as follows: burns, 6 per cent; foreign matter in eyes, 5 per cent; fractures, 0.5 per cent; amputation of finger tips, 0.7 per cent; and others, 2.8 per cent.

The fingers and hands were the parts of the body most often injured in accidents. Distribution of injuries according to the part of body involved was as follows: fingers, 51 per cent; hands, 18 per cent; eyes, 10 per cent; head (except eyes), 8 per cent; arms, 6 per cent; legs, 3 per cent; feet and toes, 3 per cent; and trunk of body, 1 per cent.

This annual toll is altogether too great a price for New Yorkers to pay. Through engineering, enforcement and education these numbers can be reduced. We can design school shops and buildings to reduce hazards to a minimum; we can devise rules and regulations to force the individual to use equipment and materials properly; but, unless we educate that individual to recognize his responsibility in the proper use of those and create in him a willingness to co-operate, we cannot hope to achieve the desired reduction in accidents.



## Here's the National Safety Council's Answer

### SCHOOL ADMINISTRATIVE SERVICE

The above "want-ad" is a composite statement of the needs of thousands of teachers who have written the Council for assistance.

Working from these general requirements, the Council's School and College Division designed the new School Administrative Service to give teachers and schools the type of material they want at a price well within their budgets.

**EFFECTIVE**—These 11 key periodicals are prepared with the help of outstanding educators; the safety education methods and techniques suggested are the end-products of their years of experience in teaching result-producing safety courses.

**INEXPENSIVE**—Costs only \$5.00 for one year. You save 24% by buying these materials as a unit. And, even more important, you are accorded full Council membership privileges: advice on conducting your school program, limitless use of the Council's library, participation in annual School and College activities. Your name is added to our list to receive samples of new school safety materials.

- ★ Safety Education magazine
- ★ Safety Beacon newsletter
- ★ Safety Scope newsletter
- ★ Safety Sentinel newsletter
- ★ Student Safety Organization newsletter
- ★ School Shop Safety newsletter
- ★ Accident Facts
- ★ Congress Transactions, School
- ★ National Directory of Safety Films
- ★ Safety Education Memos 2 & 2A

**EASY TO USE**—Materials contain detailed teaching suggestions, safety lesson unit outlines, bibliographies, safety problems and solutions, accident statistics—everything you need; yet you are saved many hours of research and preparation.

**WRITE NOW** for a complete description of this flexible new Service and your copy of the complete catalog of school materials and services.

**NATIONAL SAFETY COUNCIL**  
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use MERCUROCHROME®

for first aid

Do not neglect wounds, however small; even scratches and small cuts may become infected if they are not properly treated.

'Mercurochrome' (H. W. & D. brand of merbromin, dibromoxymercurifluorescein-sodium) is one of the best antiseptics for first aid use. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association for this purpose.

The 2% aqueous solution does not sting and can be applied safely to small wounds. Children do not hesitate to report their injuries promptly when 'Mercurochrome' is the household antiseptic, because they know that they will not be hurt. Other advantages are that solutions keep indefinitely and the color shows just where it has been applied.

Doctors have used 'Mercurochrome' for more than 28 years.

Keep a bottle of 'Mercurochrome' handy for the first aid care of all minor wounds. Do not fail to call a physician in more serious cases.

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